

IR 抛光硒化锌(ZnSe)窗片 0.6-21.0um (圆形 7.0ØX0.5mm)



产品描述

ZnSe 在红外元器件窗片透镜以及光谱分析 ATR 棱镜领域有着广泛的应用。硒化锌(Zinc Selenide)对于 CO₂ 激光器的元器件也是一种良好的选择。在二氧化碳激光器工作的波段 10.6 microns 附近有着良好的透射率。硒化锌材料是一种黄色透明的多晶材料, 结晶颗粒大小约为 70 μm, 透光范围 0.5-15 μm。由化学气相沉积(CVD)方法合成的基本不存在杂质吸收, 散射损失低。由于对 10.6 μm 波长光的吸收很小, 因此成为制作高功率 CO₂ 激光器系统中光学器件的材料。此外在其整个透光波段内, 也是在不同光学系统中所普遍使用的材料。

产品型号

ZNSEP7-0.5

应用领域

用于激光

医学

天文学

红外夜视等领域中

核心参数

工作波长	折射率	规格尺寸
0.6-21.0um	2.4028 at 10.6 μm	7.0 $\varnothing$ X0.5mm

详细参数

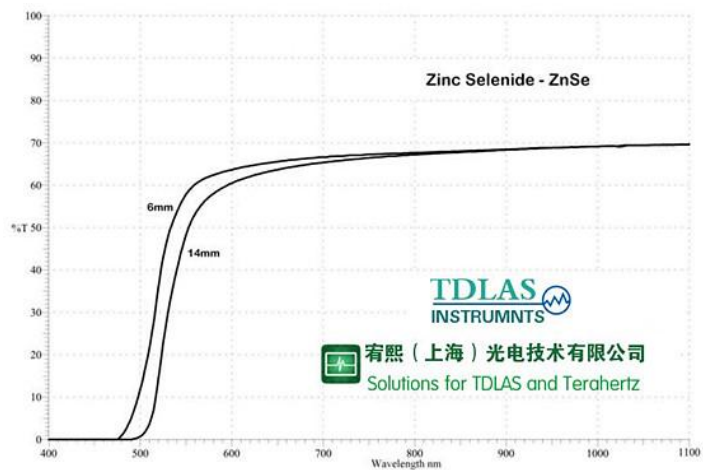
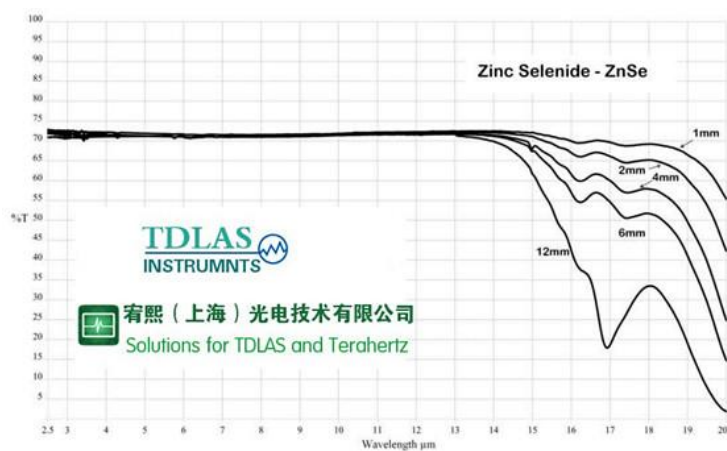
透射波段范围：	0.6 to 21.0 μm
折射率：	2.4028 at 10.6 μm
反射损耗：	29.1% at 10.6 μm (2 surfaces)
吸收系数：	0.0005 cm^{-1} at 10.6 μm
吸收峰：	45.7 μm
dn/dT：	$+61 \times 10^{-6}/^{\circ}\text{C}$ at 10.6 μm at 298K
dn/du = 0：	5.5 μm
密度：	5.27 g/cc
熔点：	1525 $^{\circ}\text{C}$ (see notes below)
导热系数：	18 $\text{W m}^{-1} \text{K}^{-1}$ at 298K
热膨胀：	$7.1 \times 10^{-6}/^{\circ}\text{C}$ at 273K
硬度：	Knoop 120 with 50g indenter
比热容量：	339 $\text{J Kg}^{-1}\text{K}^{-1}$
Dielectric Constant：	n/a
Youngs Modulus (E)：	67.2 GPa
Shear Modulus (G)：	n/a

Bulk Modulus (K) :	40 GPa
弹性系数 :	Not Available
Apparent Elastic Limit :	55.1 MPa (8000 psi)
泊松比 :	0.28
Solubility :	0.001g/100g water
Molecular Weight :	144.33
Class/Structure :	HIP polycrystalline cubic, ZnS, F43m

折射率:(No = Ordinary Ray)

μm	No	μm	No	μm	No
0.54	2.6754	0.58	2.6312	0.62	2.5994
0.66	2.5755	0.7	2.5568	0.74	2.5418
0.78	2.5295	0.82	2.5193	0.86	2.5107
0.90	2.5034	0.94	2.4971	0.98	2.4916
1.0	2.4892	1.4	2.4609	1.8	2.4496
2.2	2.4437	2.6	2.4401	3.0	2.4376
3.4	2.4356	3.8	2.4339	4.2	2.4324
4.6	2.4309	5.0	2.4295	5.4	2.4281
5.8	2.4266	6.2	2.4251	6.6	2.4235
7.0	2.4218	7.4	2.4201	7.8	2.4183

8.2	2.4163	8.6	2.4143	9.0	2.4122
9.4	2.4100	9.8	2.4077	10.2	2.4053
10.6	2.4028	11.0	2.4001	11.4	2.3974
11.8	2.3945	12.2	2.3915	12.6	2.3883
13.0	2.3850	13.4	2.3816	13.8	2.3781
14.2	2.3744	14.6	2.3705	15.0	2.3665
15.4	2.3623	15.8	2.3579	16.2	2.3534
16.6	2.3487	17.0	2.3438	17.4	2.3387
17.8	2.3333	18.2	2.3278		



特性曲线

型号:ZNSEP25-2AR 的测试数据

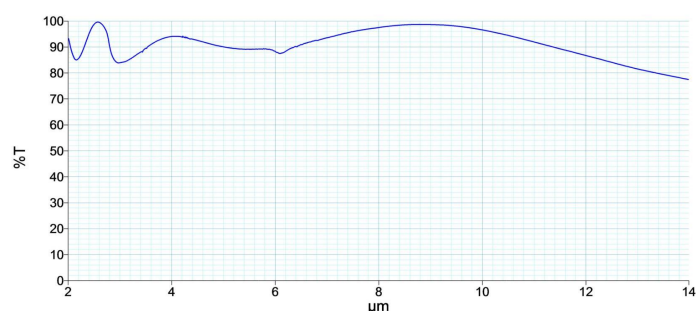
Sample Details

Sample Name: ZnSe 25-2AR
Sample Description: 2-14 micron scan test
Analyst: Administrator
Creation Date: 13/07/2017 14:07:27
X-Axis Units: μm
Y-Axis Units: %T

Instrument Details

Instrument Model: Frontier FT-IR
Instrument Serial Number: 97187
Software Revision: CPU3.2 Main 00.09.9951 07-September-2011 11:49:41
Number of Scans: 1
Resolution: 4

Spectrum



Name	Description
ZnSe 25-2AR	2-14 micron scan test

High-Efficiency Anti-Reflective (AR) Coating on Zinc Selenide (ZnSe), 10.6 μm

Application

This coating is designed to give low reflectance, low absorption and high transmittance. Especially useful for high power laser systems or for passive imaging systems.

Spectral Performance

Transmission when measured on a 3mm thick ZnSe substrate coated on both surfaces with the AR coating.

$T \geq 99.4\%$ at 10.6 μm (typically 99.6%)

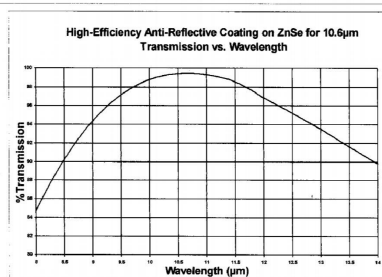
Reflection from a single surface when coated with the AR coating.

$R \leq 0.2\%$ per surface

Absorption for a single surface when coated with the AR coating.

$A \leq 0.1\%$ per surface

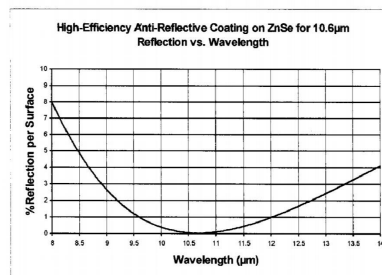
This coating can be designed for similar performance at other CO₂ wavelengths.



Environmental Performance

This coating is designed to meet durability requirements for the following MIL specifications:

Adhesion	MIL-C-48497 MIL-C-675C
Humidity	MIL-C-48497 MIL-C-675C
Moderate Abrasion	MIL-C-48497 MIL-C-675C



订购信息

ZnSe 圆形窗片订购信息:

订购型号	规格 (D×L)	应用光谱范围
ZNSEP7-0.5	7.0×0.5mm	IR
ZNSEP7X2	7.0×2.0mm	IR
ZNSEP8-1	8.0×1.0mm	IR
ZNSEP9-2	9.0×2.0mm	IR
ZNSEP10-1	10.0×1.0mm	IR
ZNSEP10-2	10.0×2.0mm	IR
ZNSEP10-2W	10.0×2.0mm 楔形	IR
ZNSEP10-3	10.0×3.0mm	IR
ZNSEP10-4	10.0×4.0mm	IR
ZNSEP10-5	10.0×5.0mm	IR
ZNSEP12X1	12.0×1.0mm	IR
ZNSEP12-2	12.0×2.0mm	IR
ZNSEP12-2W	12.0×2.0mm 楔形	IR
ZNSEP13-1	13.0×1.0mm	IR
ZNSEP13-2	13.0×2.0mm	IR
ZNSEP13-6	13.0×6.0mm	IR
ZNSEP15X2	15.0×2.0mm	IR

ZNSEP15X3	15.0×3.0mm	IR
ZNSEP17.5-1AR	17.5×1.0mm AR/AR Coated 增透膜	IR
ZNSEP18-0.5	18.5×0.5mm	IR
ZNSEP18-1	18.0×2.0mm	IR
ZNSEP18-2	19.0×1.0mm	IR
ZNSEP20-1	20.0×1.0mm	IR
ZNSEP20-2	20.0×2.0mm	IR
ZNSEP20-3	20.0×3.0mm	IR
ZNSEP20-5	20.0×5.0mm	IR
ZNSEP22-0.5	22.0×0.5mm	IR
ZNSEP22-1	22.0×1.0mm	IR
ZNSEP25-1	25.0×1.0mm	IR
ZNSEP25-2	25.0×2.0mm	IR
ZNSEP25-2AR	25.0×2.0mm AR	IR
ZNSEP25-4	25.0×4.0mm	IR
ZNSEP25-4AR	25.0×4.0mm AR	IR
ZNSEP25-5	25.0×5.0mm	IR
ZNSEP25.4-1	25.4×1.0mm	IR
ZNSEP25.4-4	25.4×4.0mm	IR
ZNSEP30-2	30.0×2.0mm	IR

ZNSEP30-4 AR	30.0×4.0mm AR	IR
ZNSEP35X1.5	35.0×1.5mm	IR
ZNSEP35X2	35.0×2.0mm	IR
ZNSEP35X2AR	35.0×2.0mm AR	IR
ZNSEP38-2	38.0×2.0mm	IR
ZNSEP40X2	40.0×2.0mm	IR
ZNSEP42-3	42.0×3.0mm	IR
ZNSEP50-3	50.0×3.0mm	IR
ZNSEP50-3AR	50.0×3.0mm AR	IR
ZNSEP55-1	55.0×1.0mm	IR
ZNSEP55-2	55.0×2.0mm	IR
ZNSEP60-3	60.0×3.0mm	IR
ZNSEP70-3	70.0×3.0mm	IR

ZnSe 方形窗片:

订购型号	规格 (L×W×H)	应用光谱范围
ZNSEP20-10-2	20.0×10.0×2.0mm	IR
ZNSEP25-25-1	25.0×25.0×1.0mm	IR
ZNSEP30-30-4	30.0×30.0×4.0mm	IR
ZNSEP38-19-4D	38.5×19.0×4.0mm 打孔	IR

ZNSEP38-19-4	38.5×19.0×4.0mm	IR
ZNSEP41-23-4D	41.0×23.0×4.0mm 打孔	IR
ZNSEP41-23-4	41.0×23.0×4.0mm	IR